



No.  943	<b>AUTHOR:</b> Steven E. Backs, Wildlife Research Biologist	<b>Date</b>  10/29/07
	<b>TITLE:</b> Wild Turkey Brood Production - Summer 2007	

*Abstract: The 2.6 poults:hen (PI) observed was identical to the 2.6 in 2006 and still lower than the average of 3.0 of the previous 5 years of 2002-2006 ( $P > 0.05$ ). The proportion of hens observed with poults was 82% was also the same as in 2006. The general decreasing trend (1993-2007) in the annual summer production of wild turkeys is indicative of a population whose growth rate is beginning to level off to "maintenance" or stable population level.*

**Work Plan: # 204301 Formerly Federal Aid Study/Job No.: W-26-R; Job 16-G-4.**

## METHODS

In 2007, district wildlife biologists and conservation officers recorded observations of wild turkey hens and poults during July and August. The wild turkey summer brood Production Index (PI) is the total poults/total adult hens (poults:hen ratio) compiled from July and August into one combined index. The August production index is generally higher than in July due to "gang" brood behavior that occurs when several individual broods and hens without broods combine into a single brood flock.

## RESULTS and DISCUSSION

A total of 368 observation cards were received for the July and August reporting period with 172 cards reporting at least one turkey observation (Table 1). The 2007 production index was 2.6 poults:hen with 82% of the hens observed with at least 1 poult (Figure 1). The average size of the 364 broods reported (hens + poults per brood observation) was 3.6 birds, similar to the 3.7 mean brood size observed in 2006. A chronic bias in the observation data, that is difficult to assess, is the tendency of some observers to report hens with poults more so than "barren hens". The reporting bias would result in a higher PI than actually occurred.

The 2.6 poults:hen (PI) observed in 2007 was the third summer where brood production indices were below the average production for the previous 5 years and the 15 year (1993-2007) average for the survey (Table 2). Since 1993, the annual PI has decreased (Figure 2) with most recent years falling below the overall mean of 3.3 PI from previous years (1993-2006). The downward trend in the PI is considered indicative of a wild turkey population as it makes the transition from a colonizing, re-establishing population with geometric growth to an established population where annual production and growth rate levels off to a maintenance level characteristic of a stabilized population. The lower level of annual production and population growth should be considered in future harvest management decisions.

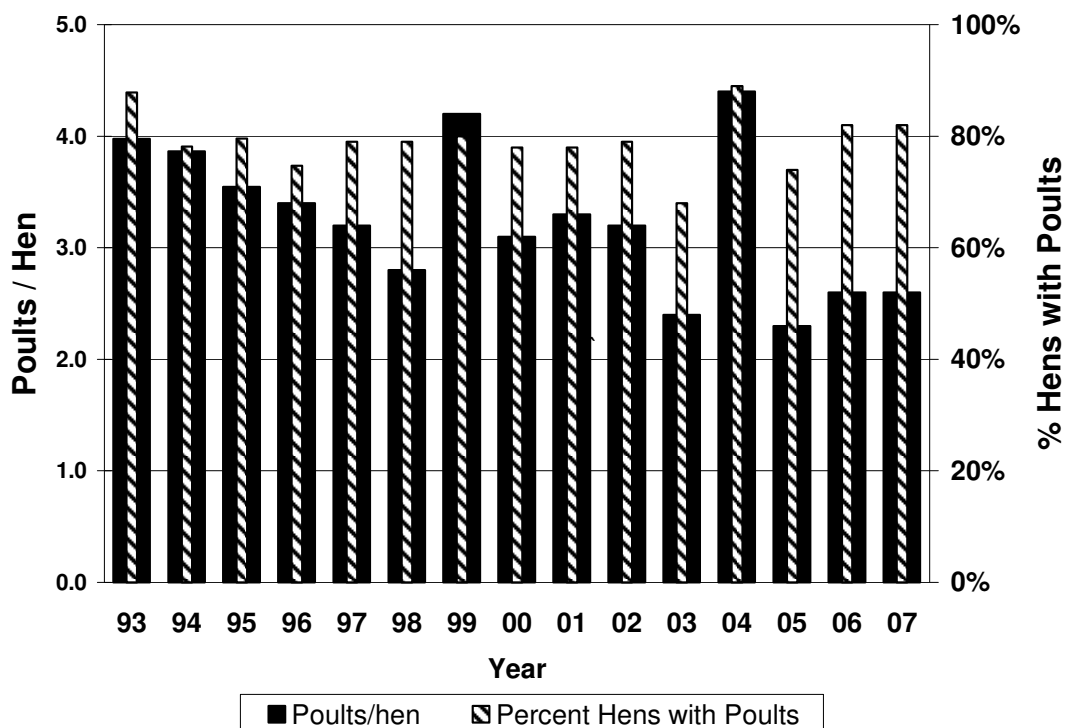
Regional summaries were not possible due to the sample size and inconsistencies in the data reporting. Climatically the southern regions of the state began suffering from one of the hottest and driest summers in recent decades starting in mid to late June with some portions of the state receiving a "severe" drought classification up through October by monitoring sources for agricultural crop production or potential wildland fire conditions. To what extent the drought may have impacted summer turkey production is unknown and speculative.

**Table 1. Indiana wild turkey brood production - Summer 2007.**

July & August Combined					Total Number of Cards = 368 Cards with $\geq 1$ observation = 172 Percent hens with broods = 81%
Totals	979	2509		2.6	
Means	2.2	6.9	9.1	3.6 **	
No. of Observations	449	364	364	364	
SE=	0.10	0.37	0.42	0.17	
Jul-07					Total Number of Cards = 185 Cards with $\geq 1$ observation = 84 Percent hens with broods = 77%
Totals	442	1107		2.5	
Means	2.1	6.8	8.8	3.7 **	
No. of Observations	212	164	164	164	
SE=	0.10	0.42	0.47	0.19	
Aug-07					Total Number of Cards = 183 Cards with $\geq 1$ observation = 88 Percent hens with broods = 84%
Totals	537	1402	1858	2.6	
Means	2.3	7.0	9.3	3.6**	
No. of Observations	237	200	200	200	
SE=	0.10	0.33	0.38	0.16	

\* Brood size = all hens + all poults observed as a group at one time  
\*\* The mean poults/hen calculated using only those observations where hens were observed with broods.  
The total poults/total hens observed for July + August = annual Production Index (PI).

**Figure 1 Wild Turkey Brood Production**



**Table 2. Indiana wild turkey production indices, 1993-2007.**

<b>Year</b>	<b>Poults : Hen <sup>a</sup></b>	<b>% Hens with poults</b>	<b>No. of Observations</b>
93	4.0	88%	101
94	3.9	78%	175
95	3.5	80%	121
96	3.4	75%	142
97	3.2	79%	126
98	2.8	79%	134
99	4.2	80%	229
00	3.1	78%	227
01	3.3	78%	313
02	3.2	79%	338
03	2.4	68%	312
04	4.4	89%	597
05	2.3	74%	240
06	2.6	82%	477
<i>02-06 Mean &amp; SE <sup>b</sup></i>	<i>3.0 (0.388)</i>	<i>78.4% (0.036)</i>	<i>393</i>
<b>07</b>	<b>2.6</b>	<b>82%</b>	<b>477</b>

<sup>a</sup> The production index (PI) is the total poults/total hens observed for July and August = annual production index.

<sup>b</sup> Production Index Mean (*Standard Error*) for 5 previous years.

**Figure 2 Wild Turkey Production - Indiana**

